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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,347	01/11/2006	Thiemo Arnim Blank	480052000600	3786

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EXAMINER	
NEAL, TIMOTHY J	
ART UNIT	PAPER NUMBER
3731	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/507,347	BLANK, THIEMO ARNIM	
	Examiner	Art Unit	
	Timothy J. Neal	3731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 January 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *25-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *25-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/04 2/05 8/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

The Examiner notes that no restriction requirement has been made in this application. However, should the Applicant amend the manufacturing method to include steps that are not inherent (for example simply providing the structure of the apparatus claim) or to not include all structural limitations of the apparatus, a restriction requirement will be made.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 25-28, 30, 32-34, 36-41, 43, 44, and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Smtih et al. (WO 01/01888).

Smith discloses:

A tubular radially expansible metal structure, comprising: a wall comprising an abluminal major wall surface, a luminal major wall surface and a radial wall thickness therebetween, the wall having struts defining through-apertures therein (Fig 5); and a plurality of expansible rings (Item 16) arranged adjacent one another along a longitudinal axis of the structure, each of the rings defining at least one bridge strut and

adjacent rings being linked by at least one bridge formed by cooperation between adjacent bridge struts on adjacent rings (Item 20); wherein said at least one bridge exhibits reduced electrical conductivity throughout the wall thickness, and wherein there are a plurality of said bridges distributed throughout the length of the tubular structure and configured and arranged to divide the tubular structure into axially spaced and electrically insulated sections (Page 3 Line 2 – Page 5 Line 9).

Claims 26-28, 30, 36-41, and 43 are also met by the reference in that the bridges comprise inter-engaged joint portions, mating portions, male-female portions with the arcuate end portions, the bridges are not parallel to the longitudinal axis of the structure, the bridges and rings are S-shaped and meander-shaped, there are fewer bridges than meanders in one ring, the structure is made of nickel-titanium, and the structure is a stent (Figs 1, 5, 6; page 3 line 2 – page 5 line 9).

A method of manufacturing a tubular radially expansible metal structure having an abluminal major wall surface, a luminal major wall surface and a radial wall thickness therebetween, comprising the steps of: forming a plurality of expansible rings (Item 16) so that the rings are arranged adjacent one another along the longitudinal axis of the structure and each of the rings define at least one bridge strut; forming bridges between adjacent rings by approximating respective bridge struts of adjacent rings (Item 20); and furnishing said bridges between each ring and its adjacent ring with reduced electrical conductivity throughout the wall thickness, such that there are a plurality of bridges

distributed throughout the length of the tubular structure, arranged and configured to divide the tubular structure into axially spaced and electrically insulated sections (Page 3 Line 2 – Page 5 Line 9).

Smith discloses the invention substantially as claimed as stated above. Smith does not explicitly disclose a conductivity-reducing layer on an abutment surface of at least one of the complementary mating portions; a portion in which the chemical composition of said metal structure is modified; an oxide layer. However, Frantzen teaches that an oxide layer forms on a nickel titanium stent when the stent is formed. Therefore, the Smith's stent includes the conductivity-reducing layer claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 26-31 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al '888 in view of Frantzen (US 5,741,327).

Smith discloses the invention substantially as claimed as stated above. Although the Examiner considers Smith to include the bridge structure as claimed, should the Applicant traverse the rejection, the Examiner is providing an alternative rejection.

Frantzen teaches the bridge connecting portions that are inter-engaging, male-female, complimentary, frusto-conical, and contain an adhesive (Figs 7-19; Col 7 line 37 – Col 11 line 13). Frantzen also teaches making a stent of stainless steel (Col 1 Lines 52-53). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Smith's bridge structure to include Frantzen's bridge portions. Such a modification would provide a means for securing the bridges and rings securely to each other.

Claims 35 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al '888 Leonhardt (WO 99/43378).

Smith discloses the invention substantially as claimed as stated above. Smith does not explicitly disclose the bridge struts comprising a sleeve. Leonhardt teaches the use of a sleeve to secure portions of stents to each other (Page 6 lines 6-9; fig 2D). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Smith's bridges to include Leonhardt's sleeve. Such a modification would provide a means to connect the portions of the device securely to each other.

Claims 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al '888.

Smith discloses the invention substantially as claimed as stated above. Smith does not explicitly disclose the mounting and laser cutting of the workpiece. However, the Examiner considers it old and well known in the art to mount a tubular structure on a support such as a mandrel, and then to use a laser to cut the pattern of the stent. When a laser is used to create the bridge structure, especially the frusto-conical sections, it would be within the purview of one having ordinary skill to depart the laser from the longitudinal axis. This is necessary to create the desired shape. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Smith's method to include the laser cutting technique. Such a modification provides a means for producing the stent with a high degree of accuracy and precision.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Brandt et al. (US 6,673,107) shows a method for manufacturing a stent using a laser in which the laser departs from the longitudinal axis to create an angle between male and female struts.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Neal whose telephone number is (571) 272-0625. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anhtuan Nguyen can be reached on (571) 272-4963. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TJN

ANHTUAN T. NGUYEN
SUPERVISORY PATENT EXAMINER
1/22/07.